Increased Awareness: The Role of Education in Influencing Attitudes and Understanding of Nonmedical Prescription Stimulants use in Greek-life Associated Undergraduate Populations

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Background and Introduction

Definition of the Non-Medical Use of Prescription Drugs

- Nonmedical use of a prescription drug is "the use in any way not directed by a doctor, including use without a prescription of one's own; use in greater amounts, more often, or longer than told to take a drug; or use in any other way not directed by a doctor"[1]

Background

- Popularity of stimulant medications in treatment of psychiatric disorders has led to an increase in availability and access to the public[2-4]
- Non-medical use of prescription stimulants (NMUPS) is second to marijuana as most common form of illicit drug use for all incoming college student because it's believed to be performance enhancers and has nootropic/euphoric effect[5]
- White males, students associated with fraternities and sororities, and students with low grade-point averages at greatest risk for NMUPS[6]
- NMUPS users also more likely to use alcohol, tobacco products, marijuana, cocaine, and methylenedioxymethamphetamine (MDMA/ecstasy)[6]

Purpose of Project

- Understanding knowledge and attitudes undergraduate Greek-life at the University of Arizona have towards the legal and illegal use of prescribed stimulant medications
- The role educational intervention can have in improving student knowledge and perceptions of prescribed stimulants

Objective

- To determine if educational intervention improved the knowledge and attitudes concerning legal and illegal use of prescribed stimulants
- To determine the actual use of prescribed stimulants for the inclusive study population at the University of Arizona

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Methods

- Inclusion Criteria:
  - College students at University of Arizona, members of Greek LIfe fraternity or sorority, and ages 18-24 years
- Pre-test and post-test design
  - *Part one* consisted of a paper based 15 questions pretest questionnaire
    - Following completion of the pre-test all questionnaires were collected, and the investigators began their verbal only presentation
    - Questions were answered at end of presentation
  - *Part two* consisted of a paper based 19 questions posttest questionnaire
    - No further interactions between investigators and study participants after post-test
- Informed consent was obtained from study participants
- Due to difficulty in recruitment, only one recognized Greek House and its members participated for the study

Results

- No advancement of knowledge among participants for the appropriate uses of, and problems stemming from the misuse of stimulants
- About 69% of participants (majority Sophomore and Junior) were using stimulants without a prescription. Chi-square statistic is 2.1039, with a p-value of 0.55
- No statistically significant change in attitude regarding legality and ethics of taking a stimulant to improve grades (p = 0.2)
- No statistically significant change in attitude regarding social acceptability to use a stimulant to enhance academic abilities (p = 0.97)
- No statistically significant difference of responses regarding the social acceptability and nonacademic uses of stimulants (p = 0.36)

Data

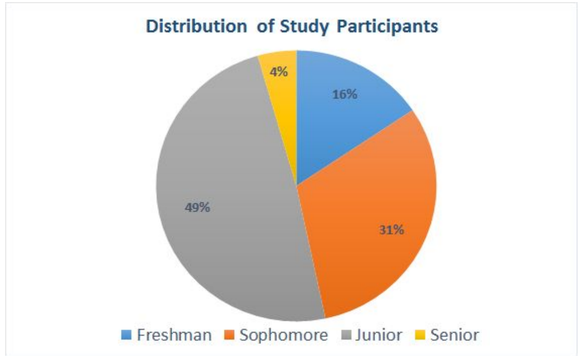

Figure 1: Demographic chart showing breakdown of participants by undergraduate level 45 total participants.

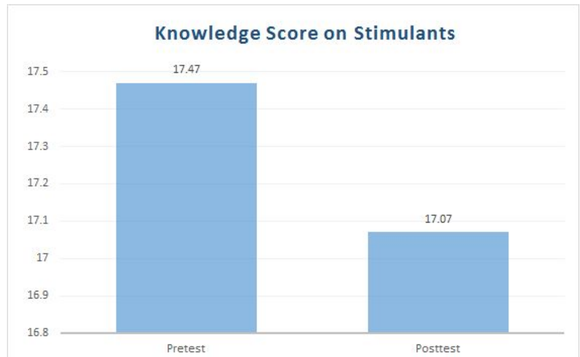

Figure 2: Average knowledge score compared between Pretest and Posttest surveys.

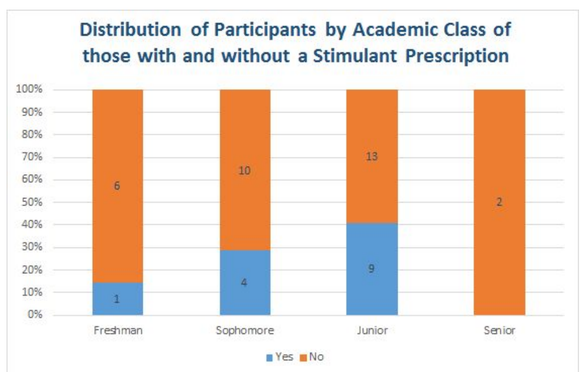

Figure 3: Prescription for Stimulants Among UA Undergraduate Greek Life Student Participants taking stimulants

Conclusion and Discussion

- Educational intervention failed to demonstrate any statistical significance regarding the primary outcome (p = 0.2)
- This study failed to demonstrate the effectiveness of *a sole verbal presentation based educational intervention*
- Educational intervention may still be shown in further studies as an important mode to increase this population's knowledge and awareness of stimulant based drugs and medications

Recommendations and Future Projects

- Future projects should include more study participants.
- Increase participation for:
  - Females, Freshmen, Sophomores
- It is recommended for future projects to also use other education medias, such as:
  - Powerpoint presentations, Demonstrations, Handouts for participants

Limitations

- All participants were male
- Approximately half of all respondents were academically defined as juniors
- Only verbal presentation was used
- This study includes no comparable data from studies or responses generated by other universities for this population regarding educational intervention

References

1. M. Prendergast, "Substance Use and Abuse Among College Students: A Review of Recent Literature," *Journal of American College Health,* vol. 43, pp. 99-113, 1994.
2. S. H. Zuvekas and B. Vitello, "Stimulant Medication Use in Children: A 12-Year Perspective," *The American Journal of Psychiatry,* vol. 169, no. 2, pp. 160-166, 2012.
3. G. Polanczyk, M. Silva de Lima, B. L. Horta, J. Biederman and L. A. Rohde, "The Worldwide Prevalence of ADHD: A Systematic Review and Metaregression Analysis," *The American Journal of Psychiatry,* vol. 164, no. 6, pp. 942-948, 2007.
4. T. E. Wilens, L. A. Adler, J. Adams, S. Sgambati, J. Rotrosen, R. Sawtelle, L. Utzinger and S. Fusillo, "Misuse and Diversion of Stimulants Prescribed for ADHD: A Systematic Review of the Literature," *Journal of the American Academy of Child and Adolescent Psychiatry,* vol. 47, no. 1, pp. 21-31, 2008.
5. L. Johnston, P. M. O'Malley, J. G. Bachman and J. E. Schulenberg, Monitoring the Future national survey results on drug use, 1975–2010: Volume II, College students and adults ages 19– 50, Ann Arbor: Institute for Social Research, The University of Michigan, 2011.
6. K. G. Low and A. E. Gendaszek, "Illicit Use of Psychostimulants Among College Students: A Preliminary Study," *Psychology, Health & Medicine,* vol. 7, no. 3, pp. 283-287, 2002.